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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/622,696	11/01/2000	Stephan Bolz	051480-5016	8807

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EXAMINER
DOLINAR, ANDREW M

ART UNIT	PAPER NUMBER
3747	

DATE MAILED: 09/05/2003

21

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/622,696	BOLZ, STEPHAN
Examiner	Art Unit	
Andrew M. Dolinar	3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM

**THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 26 June 2003.

2a) This action is **FINAL**.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 17-29 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 17-29 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.

4) Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17, 20, 21 and 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al in view of Nakajima et al. Suzuki et al discloses the claimed invention except for the express disclosure of a plug connector. Control device 25 provides an interface with sensor 17 and includes an evaluating unit 69 for digitization of data (column 7, lines 60-65) to be transmitted to engine control device ECU 5. Figure 1 clearly suggests that control device 25 is in a separate housing from the ECU. Nakajima et al teaches that it is known to provide a sensor interface with housing having a plug connector as set forth beginning at column 7, line 17. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the control device 25 of Suzuki et al with a plug connector in the housing, as taught by Nakajima et al, in order to facilitate replacement. Regarding claim 29, it would have been an obvious matter of design choice to place the interface closer to the sensor than to the engine control device since this does not effect operation of the system. See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al in view of Nakajima et al as applied to claims 17, 20, 21 and 23-29 above, and further in view of

Art Unit: 3747

Ohba et al. Ohba et al teaches that it is known to provide a sensor interface circuit with a conductive casing for shielding. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further provide the control device 25 of Suzuki et al with a conductive casing, as taught by Ohba et al, in order to protect the circuitry from electrical interference.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al in view of Nakajima et al as applied to claims 17, 20, 21 and 23-29 above, and further in view of Frankeny et al. Frankeny et al teaches that it is known to provide a circuit casing with a cooling flange. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further provide the control device 25 of Suzuki et al with a cooling flange, as taught by Frankeny et al, in order to protect the circuitry from excessive heat.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al in view of Nakajima et al as applied to claims 17, 20, 21 and 23-29 above, and further in view of Matsubara et al. Matsubara et al teaches that it is known to provide a sensor interface circuit with a shielded connecting line (column 2, lines 26-38). It would have been obvious to one having ordinary skill in the art at the time the invention was made to further provide the control device 25 of Suzuki et al with a shielded connecting line, as taught by Matsubara et al, in order to protect the circuitry from electrical interference.

#### ***Response to Arguments***

Applicant's arguments have been fully considered but they are not persuasive. The test for obviousness is not whether the features of a secondary reference may be bodily

Art Unit: 3747

incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

The disclosure of Suzuki et al does not include details of the housing and connecting structure of the control device 25, one having ordinary skill in the art would therefore be expected to consider using structures known in the prior art. FIG. 1 of Suzuki et al shows control device 25 as separate from ECU 5 in a manner essentially corresponding to coupler 100 and ECU 4 as shown in FIG. 1 of Nakajima et al. This would have suggested to one of ordinary skill that control device 25 of Suzuki et al, which has a digitizing function, is intended to be structurally separated from the ECU and that a housing with a plug connector is suitable to contain it.

#### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 3747

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew M. Dolinar whose telephone number is (703) 308-1948. The examiner can normally be reached on Mon. - Thu. 7:45 - 6:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on (703) 308-1946. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



Andrew M. Dolinar  
Primary Examiner  
Art Unit 3747

AMD  
September 3, 2003